

# **EXHIBIT I**



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Technics SL-1000R

Samsung Q90

Best speakers

Sonos Beam

Review

## Sonos multi-room system review

There's a reason Sonos is so dominant in this sector

★★★★★ By What Hi-Fi? Posted

a month ago



OUR VERDICT

It's facing more competition than ever, but no multi-room offering is as complete or as pleasurable to live with as Sonos

- +

FOR

Still the best user experience

Good service support

Consistent, engaging sound

Regular updates

- AGAINST













Individual speakers can be trumped for sound


No hi-res support

For years, Sonos has been synonymous with the concept of multi-room audio, so it's hard to know which came first. At the very least, Sonos spotted a trend long before its competitors – at most, it's responsible for making the market what it is today.


Sonos as a system has two big advantages – breadth of choice and simplicity of use. In the time its rivals have been playing catch-up, Sonos has launched a whole family of products and got onside with a long list of streaming services, not to mention nailing the usability aspect of multi-room.

MORE: [Multi-room audio: everything you need to know](#)

Sonos multi-room system <span>?</span>				
	Sonos One		\$141.14	<a href="#">VIEW</a>
<a href="#">See all prices</a>				
	Sonos Play:1		\$127.97	<a href="#">VIEW</a>
<a href="#">See all prices</a>				
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	Sonos Beam		\$348.97	<a href="#">VIEW</a>
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Speakers



Sonos One

The current star of Sonos’s range of wireless speakers is undoubtedly the **One** (above). Matching the five-star performance of the **Play:1** pretty much step for step, it builds on the latter’s feature list with built-in Alexa Voice Assistant (and, soon, Google Assistant) to become the company’s inaugural smart speaker offering.

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Things have changed on the top plate, where the three buttons of the Play:1 have been replaced by a touch-sensitive panel decorated with a circle of tiny, white LEDs and symbols.

These represent play/pause, the microphone and Sonos’ now-familiar context-sensitive actions, while the white LEDs illustrate when Alexa is switched on. Unlike the Play:1, the One also gets a dedicated Pairing button, just above the ethernet socket.

If you want to voice-control music in other rooms, specify where (eg. “Alexa, play Bowie in the lounge”) and the One will send music to the Sonos kit you’ve ascribed to that ‘zone’ – even a non-Alexa-enabled Sonos speaker, such as a **PlayBar** or **Play:5** (below). “Alexa, play Bowie everywhere” sets all your Sonos speakers to synchronised Ziggy Stardust mode.

A combination of noise-cancelling, something called “smart voice capture” and a custom-designed six-microphone array also ensures that she can always hear you.

**MORE: [Sonos deals: The cheapest price on every Sonos speaker](#)**



Sonos Play:5

Of course, you can also use Alexa on the One exactly as you do an **Amazon Echo** or **Echo Dot**, so as well as playing music you can set timers and alarms, check the weather, add items to your shopping list – small features, but useful nonetheless.

The One produces a weighty, full-bodied and spacious sound that's capable of going loud for a speaker this small. Voices are clearly projected, bass is solid, and treble is crisp and clean. It's a surprisingly sophisticated sound, and one that's natural and authentic.

Should you want the same sonic performance without the voice control, you can currently pick up the Play:1 for £60 less than the One.

That general sonic character also carries over to the far larger **Play:5**, but it's able to produce a far bigger and bolder sound, thanks to its larger chassis and extra drivers: three 10cm mid-woofers sit below a trio of tweeters, one front-firing and two horned outwards for greater dispersion, and are powered by six matching Class D amplifiers.

This is a weighty performance that can easily fill a room without sacrificing the clarity or openness of the mid-range. It's effortlessly listenable, with no hard or sharp edges to cause distraction.

**MORE: [Sonos: everything you need to know](#)**

# WHAT HI-FI?

The 'Sonos Architectural by Sonance' Outdoor Speaker

It loses some of its sheen when compared to the superb sound and extraordinary value of the **Audio Pro C10**, as do most speakers entering the Scandinavian brand's territory, but still represents a fine-sounding option for those joining the Sonos family.

Sonos encourages you to calibrate each speaker using the app's built-in TruePlay feature, which measures pulses fired out from the drivers. It generally results in better performance, so it's a shame that, due to inconsistencies in Android devices' microphones, only iOS devices can get in on the action.

There's also a Loudness switch for each speaker, which is worth experimenting with. Turning it off can result in greater clarity and tighter bass, particularly if the speaker is placed in a corner, but it also reduces weight and scale.


Sonos has also partnered with Sonance to create the Sonos Architectural by Sonance range of speakers, which includes an in-wall speaker, in-ceiling speaker and an outdoor speaker (above). These are not Sonos speakers in the usual sense, but passive speakers designed to complement Sonos products in terms of finish and sonic character.

The selling point is that if you connect the Sonos Amp to a pair of Sonance speakers, you can use the Trueplay feature to tune the sound to your room. With other speakers this isn't possible.


**MORE: [IKEA's Symfonisk Sonos speakers to go on sale in August](#)**

Today's best Sonos Play:1, Sonos One and Sonos Play:5 deals

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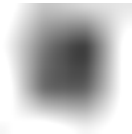


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Hi-fi components



Sonos Amp

We’ve long enjoyed the Connect as Sonos’s means of connecting existing hi-fi systems to its multi-room network, while until recently the Connect:Amp has been the company’s go-to powered version of the streamer.

But the recent arrival of the Sonos Amp (above) has given customers a new,



tantalising option. Even by Sonos's standards, it's an understated device. It's only available in black and with three touch-sensitive 'buttons' on the front: one for play/pause and two that change use with context but are mainly for the volume.

The insides of the new Amp are densely packed, with no dead space. That, of course, creates a cooling problem, but the Amp is designed to bring in air from underneath and expel it from the top, all without the use of a fan.

**MORE:** [32 Sonos tips, tricks and features](#)



Sonos Amp

In terms of character, the Amp paints very much with the same bold strokes as the rest of its family, revelling in forward-sounding presentations and dealing them with gusto and a more-than-respectable level of detail.

That's not to say the Amp is overly energetic – it doesn't attempt to force the issue with subtler tracks as some enthusiastically forward-sounding components can tend to do – but it doesn't need asking twice to really throw the music at you.

What restricts it from being a class leader, regardless of the competition from Bluesound's Award-winning [Powernode 2i](#), is a relatively pedestrian sense of timing and dynamics.



Organisation is wavering only when an arrangement tests the Amp at its limits, and rhythmically it is far from inept, but there isn't quite the musicality to offer tracks their due expression or drive beats with obvious impetus on leading notes.



As part of a Sonos network, it is an admirable performer, not least for its versatility; it just falls short in terms of hi-fi separates, which its rival from Bluesound does not.



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Home cinema



Sonos Beam

Sonos’s suite of home cinema components all share the character of the rest of the family. Further testament to their talents, is their consistently high ratings in our stand-alone tests: the **Playbase** and **Sub** were both awarded four stars, with the **Playbar** achieving five.

The star, however, is the Award-winning **Beam** (above). Inside are four full-range drivers, one tweeter and three passive radiators, plus five class-D amplifiers. As on the Playbar and Playbase, the drivers and radiators are positioned along the front and the far edges of the bar, helping to drive sound around your room for a more immersive, room-filling sound.

Voice control is taken care of by five far-field microphones, which ensure the Beam can hear you wherever you are in the room, even when the speaker is

blaring music out.

**MORE:** [9 Sonos Beam tips, tricks and features](#)



This isn't simply a soundbar: it's also a wireless, multi-room speaker that can play music from almost any source, pretty much like any other Sonos speaker.

And it sounds exceptionally good, particularly for its size. Sonos has managed to overcome two of the usual limitations of compact speakers: scale and weight. Dialogue is also clear and direct, and never drowned out by the rest of the action.

In fact, you might be blown away by the transformation from your TV's in-built speakers. Suddenly you're getting scale, dynamics, detail and punch and as close to the intended performance as you could expect from a £400 speaker.

It isn't perfect – there's a little treble brightness and sibilance is present, particularly at higher volumes or with poorly recorded audio – but it's far less a problem than we encountered with the Playbase, for example.

And while the Beam is almost unbelievably spacious for its size, it doesn't quite fool you into thinking you're listening to a proper surround sound system. Effects stretch right across the front of the room, well beyond the dimensions of the screen.

They don't, however, stretch up the sides. It's a deep, spacious, atmospheric delivery, with echoes and reverb and three-dimensionality, but it's not surround sound.

The Beam is, though, about as musical as a dispersive soundbar can be. You sacrifice some directness due to the angling of the drivers but for a device designed first and foremost as an AV product, the Beam makes for a solid music system, with good tonal balance, bass weight, rhythm and punch.

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Today's best Sonos Beam, Sonos Playbar, Sonos Playbase and Sonos Sub deals

★★★★★ 340 Amazon customer reviews

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## Multi-room performance



The Sonos app

The Sonos app is a large part of the system’s charm. As well as walking you through set-up, it’s where control of your system takes place, enabling you to see what music is playing where and to group speakers together.

It also offers the widest choice of streaming service compatibility of any multi-room system, giving you access to all of your music in one place. Even Spotify is properly integrated into the app, where most rivals force you to use Spotify Connect. On Sonos though, that’s merely an option.

Having everything in one place is one of Sonos’s greatest strengths, largely because it enables genuine universal search. Search for an artist, album or track and Sonos will browse through all music services and local sources connected over a home network, such as iTunes libraries and NAS drives.

It’s a nice touch, especially when most competitors only search one source at a time. You’re also able to build playlists and on-the-fly queues directly within Sonos, and again from multiple sources.

One big gap in Sonos's offering is its lack of support for hi-res audio, and with the likes of Bluesound offering it, it's a shame Sonos hasn't followed suit. If you try to play anything hi-res you'll get an error message, so it won't even downsample it. It's truly out of bounds.

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The Sonos app

There's a question mark over how important hi-res audio is in the context of a multi-room system consisting of compact wireless speakers, but the option would be nice.

Otherwise, Sonos supports all the main file formats, including MP3, WMA, FLAC (up to 16bit/44.1kHz), WAV, AAC and AIFF, recommending FLAC format for lossless files to ensure the most accurate indexing.

Sonos has also recently added Alexa voice control, either through the addition of Amazon Echo devices or the Sonos One or Beam, and Google Assistant is coming to both devices in July. Buying one of Sonos's own smart speakers gives you the best, most seamlessly integrated experience, but adding the cheaper Echo Dot to an existing Sonos system gives you the option to control the music across your house using your voice.

The constant updating of its app is testament to Sonos's dedication to endlessly improving, upgrading and evolving its offering, and it makes investment in a Sonos system feel like a safe bet.

**MORE: Every *What Hi-Fi?* Sonos review**

## Verdict

While we still hope that Sonos has a change of heart and adds hi-res support in the near future, we don't believe its absence is a deal-breaker.

But if you do, you should look at what **Bluesound** offers. Those looking for a simpler, cheaper and better-sounding alternative to Sonos now have the **Audio Pro** option, too.

But for combining a broad range of accomplished products with comfortably

the most substantial selection of streaming services and the most pleasant and complete user-experience, Sonos remains one of the best multi-room performers.

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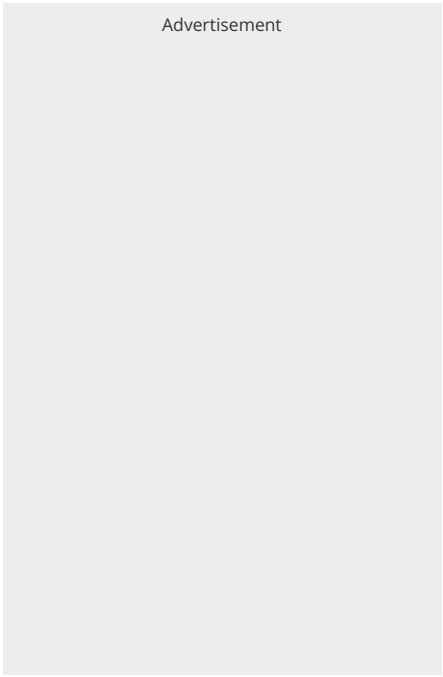
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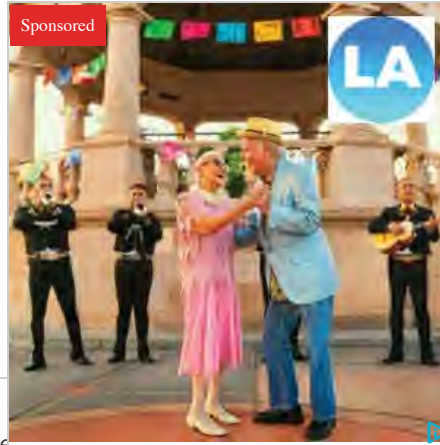
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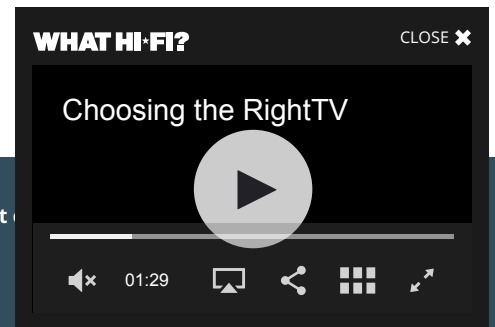
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